

ENVIRONMENTAL PROTECTION COMMISSION[567]

Notice of Intended Action

Twenty-five interested persons, a governmental subdivision, an agency or association of 25 or more persons may demand an oral presentation hereon as provided in Iowa Code section 17A.4(1)"b."

Notice is also given to the public that the Administrative Rules Review Committee may, on its own motion or on written request by any individual or group, review this proposed action under section 17A.8(6) at a regular or special meeting where the public or interested persons may be heard.

Pursuant to the authority of Iowa Code sections 455B.105 and 455B.173, the Environmental Protection Commission gives Notice of Intended Action to amend Chapter 61, "Water Quality Standards," and Chapter 62, "Effluent and Pretreatment Standards: Other Effluent Limitations or Prohibitions," Iowa Administrative Code.

The proposed amendments will:

- Establish numerical water quality criteria for chloride for the protection of aquatic life uses.
- Establish numerical water quality criteria for sulfate for the protection of aquatic life uses.
- Update the effective date of references to the "Supporting Document for Iowa Water Quality Management Plans" found in 567 IAC Chapters 61 and 62 to reflect the removal of the total dissolved solids site-specific approach and revision of the sulfate ion guideline value.
- Revise the default hardness level used for hardness-dependent chemical criteria from 100 mg/l (as CaCO₃) to 200 mg/l.

Iowa Code sections 455B.171 to 455B.183 establish requirements for the protection and management of surface water quality. The Environmental Protection Commission, with the assistance of the Department, promulgates administrative regulations on water quality. Iowa's water quality standards are written into regulation at 567 IAC Chapter 61.

In 2004, the Iowa Department of Natural Resources (DNR) moved forward with a proposed chloride standard. Concerns were raised that the proposed chloride standard was not scientifically defensible for use in Iowa. Consequently, a chloride standard was not approved, and an interim strategy using total dissolved solids as an indicator regarding water quality was put in place while the Department worked through the issues surrounding the chloride standard.

Recently, the research and analysis related to toxicity of total dissolved solids, chloride and sulfate have been completed by the Department in conjunction with the U.S. Environmental Protection Agency. The purpose of the research and analysis was to update and develop criteria for these parameters to better protect aquatic life based on new scientific information.

The DNR worked with the U.S. Environmental Protection Agency to ensure that the research compiled met certain scientific standards. Gaps were identified in the research and resulted in new toxicity tests being performed in 2008 and 2009.

With the availability of new research and toxicity data, the information is now available to propose numeric criteria for chloride and sulfate to better protect river, stream and lake aquatic life uses and remove the current interim approach for total dissolved solids criteria.

Additional information on Iowa's water quality standards and the Department's rules can be found on the Department's Web site at <http://www.iowadnr.com/water/standards/index.html>.

Any person may submit written suggestions or comments on the proposed amendments through August 14, 2009. Such written material should be submitted to Adam Schnieders, Iowa Department of Natural Resources, Wallace State Office Building, 502 East 9th Street, Des Moines, Iowa 50319-0034, fax (515)281-8895 or by E-mail to adam.schnieders@dnr.iowa.gov. Persons who have questions may contact Adam Schnieders at (515)281-7409.

Persons are invited to present oral or written comments at the public hearings, which will be held throughout the state as follows:

July 7, 2009	11 a.m.	Orange City Public Library 112 Albany Avenue S.E. Orange City, Iowa
July 7, 2009	6 p.m.	Spencer Public Library 21 E. 3rd Street Spencer, Iowa
July 9, 2009	1 p.m.	Wallace State Office Building Fifth Floor Conference Rooms 502 E. 9th Street Des Moines, Iowa
July 13, 2009	11 a.m.	Dubuque Public Library 360 W. 11th Street Dubuque, Iowa
July 13, 2009	6 p.m.	Iowa City Public Library 123 S. Linn Street Iowa City, Iowa
July 15, 2009	10 a.m.	Atlantic Public Library 507 Poplar Street Atlantic, Iowa
July 16, 2009	11 a.m.	Clear Lake Public Library 200 N. 4th Street Clear Lake, Iowa

These amendments may have an impact upon small businesses.

These amendments are intended to implement Iowa Code chapter 455B, division III, part 1.

The following amendments are proposed.

ITEM 1. Amend **567—Chapter 61** and **Chapter 62** by striking the phrase “as revised on June 16, 2004” wherever it occurs and inserting the effective date of these amendments in lieu thereof.

ITEM 2. Rescind paragraph **61.3(2)“g.”**

ITEM 3. Reletter paragraph **61.3(2)“h”** as **61.3(2)“g.”**

ITEM 4. Amend subrule **61.3(3)**, TABLE 1. Criteria for Chemical Constituents, parameters for cadmium, chloride, copper, lead, nickel and zinc, as follows:

Parameter		Use Designations							
		B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)	C	HH
Cadmium	Chronic	1	—	.27(h) .45(h)	.27(h) .45(h)	.27(h) .45(h)	1	—	—
	Acute	4	—	2.13(h) 4.32(h)	2.13(h) 4.32(h)	2.13(h) 4.32(h)	4	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	168(e)
	MCL	—	—	—	—	—	—	5	—
Chloride	<u>Chronic</u>	<u>389(m)*</u>	<u>389(m)*</u>	<u>389(m)*</u>	<u>389(m)*</u>	<u>389(m)*</u>	<u>389(m)*</u>	==	==
	<u>Acute</u>	<u>629(m)*</u>	<u>629(m)*</u>	<u>629(m)*</u>	<u>629(m)*</u>	<u>629(m)*</u>	<u>629(m)*</u>	==	==
	MCL	—	—	—	—	—	—	250*	—
Copper	Chronic	20	—	9.3(i) 16.9(i)	9.3(i) 16.9(i)	9.3(i) 16.9(i)	10	—	—
	Acute	30	—	14(i) 26.9(i)	14(i) 26.9(i)	14(i) 26.9(i)	20	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	1000(e)
	Human Health + — F & W	—	—	—	—	—	—	—	1300(f)

Parameter		Use Designations							HH
		B(CW1)	B(CW2)	B(WW-1)	B(WW-2)	B(WW-3)	B(LW)	C	
Lead	Chronic	3	—	3.2^(h) <u>7.7⁽ⁱ⁾</u>	3.2^(h) <u>7.7⁽ⁱ⁾</u>	3.2^(h) <u>7.7⁽ⁱ⁾</u>	3	—	—
	Acute	80	—	81.7^(h) <u>197⁽ⁱ⁾</u>	81.7^(h) <u>197⁽ⁱ⁾</u>	81.7^(h) <u>197⁽ⁱ⁾</u>	80	—	—
	MCL	—	—	—	—	—	—	50	—
Nickel	Chronic	350	—	52^(h) <u>93^(k)</u>	52^(h) <u>93^(k)</u>	52^(h) <u>93^(k)</u>	150	—	—
	Acute	3250	—	470^(h) <u>843^(k)</u>	470^(h) <u>843^(k)</u>	470^(h) <u>843^(k)</u>	1400	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	4600 ^(e)
	Human Health + — F & W	—	—	—	—	—	—	—	610 ^(f)
Zinc	Chronic	200	—	120^(h) <u>215⁽ⁱ⁾</u>	120^(h) <u>215⁽ⁱ⁾</u>	120^(h) <u>215⁽ⁱ⁾</u>	100	—	—
	Acute	220	—	120^(h) <u>215⁽ⁱ⁾</u>	120^(h) <u>215⁽ⁱ⁾</u>	120^(h) <u>215⁽ⁱ⁾</u>	110	—	—
	Human Health + — Fish	—	—	—	—	—	—	—	26 ^(e)
	Human Health + — F & W	—	—	—	—	—	—	—	7.4 ^(f)

* units expressed as milligrams/liter

ITEM 5. Amend subrule **61.3(3)**, TABLE 1. Criteria for Chemical Constituents, footnotes (h) to (l), as follows:

- (h) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of ~~400~~ 200 mg/l (as CaCO₃ (mg/l)). Numerical criteria (µg/l) for cadmium are a function of hardness (as CaCO₃ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[1.0166\text{Ln(Hardness)} - 3.924]}$	$e^{[1.0166\text{Ln(Hardness)} - 3.924]}$	$e^{[1.0166\text{Ln(Hardness)} - 3.924]}$
Chronic	$e^{[0.7409\text{Ln(Hardness)} - 4.719]}$	$e^{[0.7409\text{Ln(Hardness)} - 4.719]}$	$e^{[0.7409\text{Ln(Hardness)} - 4.719]}$

- (i) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of ~~400~~ 200 mg/l (as CaCO₃ (mg/l)). Numerical criteria (µg/l) for copper are a function of hardness (CaCO₃ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[0.9422\text{Ln(Hardness)} - 1.700]}$	$e^{[0.9422\text{Ln(Hardness)} - 1.700]}$	$e^{[0.9422\text{Ln(Hardness)} - 1.700]}$
Chronic	$e^{[0.8545\text{Ln(Hardness)} - 1.702]}$	$e^{[0.8545\text{Ln(Hardness)} - 1.702]}$	$e^{[0.8545\text{Ln(Hardness)} - 1.702]}$

- (j) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of ~~400~~ 200 mg/l (as CaCO₃ (mg/l)). Numerical criteria (µg/l) for lead are a function of hardness (CaCO₃ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[1.2731\text{Ln(Hardness)} - 1.46]}$	$e^{[1.2731\text{Ln(Hardness)} - 1.46]}$	$e^{[1.2731\text{Ln(Hardness)} - 1.46]}$
Chronic	$e^{[1.2731\text{Ln(Hardness)} - 4.705]}$	$e^{[1.2731\text{Ln(Hardness)} - 4.705]}$	$e^{[1.2731\text{Ln(Hardness)} - 4.705]}$

- (k) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of ~~400~~ 200 mg/l (as CaCO₃ (mg/l)). Numerical criteria (µg/l) for nickel are a function of hardness (CaCO₃ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[0.846\text{Ln(Hardness)} + 2.255]}$	$e^{[0.846\text{Ln(Hardness)} + 2.255]}$	$e^{[0.846\text{Ln(Hardness)} + 2.255]}$
Chronic	$e^{[0.846\text{Ln(Hardness)} + 0.0584]}$	$e^{[0.846\text{Ln(Hardness)} + 0.0584]}$	$e^{[0.846\text{Ln(Hardness)} + 0.0584]}$

- (l) Class B(WW-1), B(WW-2), and B(WW-3) criteria listed in main table are based on a hardness of ~~400~~ 200 mg/l (as CaCO₃ (mg/l)). Numerical criteria (µg/l) for zinc are a function of hardness (CaCO₃ (mg/l)) using the equation for each use according to the following table:

	B(WW-1)	B(WW-2)	B(WW-3)
Acute	$e^{[0.8473\text{Ln(Hardness)} + 0.884]}$	$e^{[0.8473\text{Ln(Hardness)} + 0.884]}$	$e^{[0.8473\text{Ln(Hardness)} + 0.884]}$
Chronic	$e^{[0.8473\text{Ln(Hardness)} + 0.884]}$	$e^{[0.8473\text{Ln(Hardness)} + 0.884]}$	$e^{[0.8473\text{Ln(Hardness)} + 0.884]}$

ITEM 6. Amend subrule **61.3(3)**, TABLE 1. Criteria for Chemical Constituents, by adopting **new** footnote (m) as follows:

- (m) Acute and chronic criteria listed in main table are based on a hardness of 200 mg/l (as CaCO₃ (mg/l)) and a sulfate concentration of 63 mg/l. Numerical criteria (µg/l) for chloride are a function of hardness (CaCO₃ (mg/l)) and sulfate (mg/l) using the equation for each use according to the following table:

	B(CW1), B(CW2), B(WW-1), B(WW-2), B(WW-3), B(LW)
Acute	$287.8(\text{Hardness})^{0.205797}(\text{Sulfate})^{-0.07452}$
Chronic	$177.87(\text{Hardness})^{0.205797}(\text{Sulfate})^{-0.07452}$

ITEM 7. Amend subrule **61.3(3)** by adopting the following **new** table:

TABLE 4. Aquatic Life Criteria for Sulfate for Class B Waters

(all values expressed in milligrams per liter)

	Chloride		
Hardness mg/l as CaCO ₃	Cl ⁻ < 5 mg/l	5 <= Cl ⁻ < 25	25 <= Cl ⁻ <= 500
H < 100 mg/l	500	500	500
100 <= H <= 500	500	$[-57.478 + 5.79(\text{hardness}) + 54.163(\text{chloride})] \times 0.65$	$[1276.7 + 5.508(\text{hardness}) - 1.457(\text{chloride})] \times 0.65$
H > 500	500	2,000	2,000